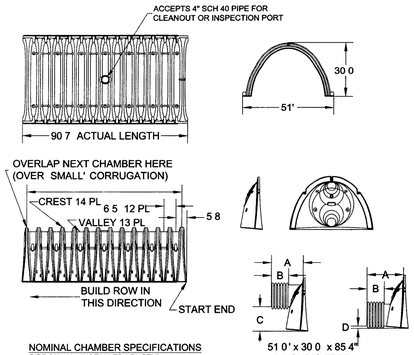
SC-740 TECHNICAL SPECIFICATIONS



NOMINAL CHAMBER SPECIFICATIONS
SIZE (W x H x INSTALLED LENGTH)
CHAMBER STORAGE
MINIMUM INSTALLED STORAGE - WEIGHT

51 0 ' x 30 0 x 85 4"
45 9 CUBIC FEET
74 9 CUBIC FEET
75 LBS

STUBS AT TOP OF END CAP FOR PARTS NUMBERS ENDING WITH 'T

STUBS AT BOTTOM OF END CAP FOR PARTS NUMBERS ENDING WITH "B

PART #	CHAMBER	PIPE SIZE	A	B	C	D
SC740EPE06T	SC 740	6 in (150 mm)	10 90 in (277 mm)	3 85 in (98 mm)	18 50 in (470 mm)	N/A
SC740EPE06B	SC 740	6 in (150 mm)	10 90 in (277 mm)	3 85 in (98 mm)	N/A	0 50 in (13 mm)
SC740EPE12T	SC 740	12 in (300 mm)	14 70 in (373 mm)	7 70 in (196 mm)	12 50 in (318 mm)	N/A
SC740EPE12B	SC 740	15 in (375 mm)	14 70 in (373 mm)	7 70 in (196 mm)	N/A	1 20 in (30 mm)
SC740EPE15T	SC 740	12 in (300 mm)	18 40 in (467 mm)	10 36 in (263 mm)	9 00 in (229 mm)	N/A
SC740EPE15B	SC 740	15 in (375 mm)	18 40 in (467 mm)	10 36 in (263 mm)	N/A	1 30 in (33 mm)
SC740EPE18T	SC 740	18 in (460 mm)	19 70 in (500 mm)	10 72 in (272 mm)	5 00 in (127 mm)	N/A
SC740EPE18B	SC 740	18 in (460 mm)	19 70 in (500 mm)	10 72 in (272 mm)	N/A	1 60 in (41 mm)
SC740EPE24B	SC 740	24 in (600 mm)	18 50 in (470 mm)	9 45 in (240 mm)	N/A	0 10 in (3 mm)

NOTE ALL DIMENSIONS ARE NOMINAL

ALL STUBS EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888 892-2694

* **FOR THE SC740EPE24B THE 24 STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 175" BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SETS LEVEL**

STORMTECH GENERAL NOTES

STORMTECH GENERAL NOTES

1 STORMTECH LLC (STORMTECH) REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH S LATEST INSTALLATION INSTRUCTIONS
2 PRIOR TO BEGINNING SYSTEM INSTALLATION

OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION
3 CONSULTATION OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION
4 REQUIREMENTS BEFORE BEGINNING THE SYSTEM S CONSTRUCTION CALL **1-888-892-2694** TO SPEAK TO A TECHNICAL
5 SERVICE REPRESENTATIVE OR VISIT **WWW STORMTECH.COM** TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS

STORMTECH S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT CONCRETE PAVERS ETC) MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT WHERE RUTTING FROM VEHICLES MAY OCCUR MINIMUM REQUIRED COVER IS 24 INCHES MAXIMUM COVER IS 96 INCHES

THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER

AASHTO M288 CLASS 2 NON WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS

6 STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW
7 INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH S INSTALLATION
8 INSTRUCTIONS

BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH S INSTALLATION INSTRUCTIONS

THE CONTRACTOR MUST REFER TO
9 STORMTECH S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER THIS
10 INFORMATION IS ALSO AVAILABLE AT STORMTECH S WEBSITE **WWW STORMTECH COM** THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM TEMPORARY FENCING WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS

THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER S SPECIFICATIONS

STORMTECH PRODUCT WARRANTY IS LIMITED SEE CURRENT PRODUCT WARRANTY FOR DETAILS TO ACQUIRE A COPY CALL STORMTECH AT **1 888-892 2694** OR VISIT **WWW STORMTECH COM**

STORMTECH PRODUCT SPECIFICATIONS

STORMTECH PRODUCT SPECIFICATIONS

GENERAL
1 0 STORMTECH CHAMBERS ARE DESIGNED TO
1 1 CONTROL STORMWATER RUNOFF AS A SUBSURFACE RETENTION SYSTEM STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL AS A SUBSURFACE DETENTION SYSTEM STORMTECH
2 0 CHAMBERS DETAIN AND ALLOW FOR THE
2 1 METERED FLOW OF WATER TO AN OUTFALL
CHAMBER PARAMETERS
THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR) AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE

2 2 THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC 740 SHALL BE 30 0 INCHES TALL 51 0 INCHES WIDE AND 90 7 INCHES LONG THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC 310 SHALL BE 16 0 INCHES TALL 34 0 INCHES WIDE AND 90 7 INCHES LONG THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 85 4 INCHES

2 3 THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE

2 4 THE CHAMBER SHALL BE OPEN BOTTOMED

2 5 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH

2 6 THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74 9 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY) THIS EQUATES TO 2 2 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED THE NOMINAL STORAGE VOLUME OF AN INSTALLED STORMTECH SC-310 CHAMBER SHALL BE 31 0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY) THIS EQUATES TO 1 3 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED

2 7 THE CHAMBER SHALL HAVE FORTY EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER

2 8 THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR

2 9 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW S ENTIRE LENGTH

2 10 THE CHAMBER SHALL HAVE 14 CORRUGATIONS

2 11 THE CHAMBER SHALL HAVE A CIRCULAR INDENTED FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4 INCH INSPECTION PORT OR CLEAN OUT

2 12 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN SPECIFICATIONS 2ND EDITION INCLUDING INTERIM SPECIFICATIONS THROUGH 2001 DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL

2 13 THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001 2000 CERTIFIED FACILITY

3 0 END CAP PARAMETERS
3 1 THE END CAP SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE

3 2 THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER WHICH ALLOWS CAPPING A CHAMBER THAT HAS ITS LENGTH TRIMMED SEGMENTING ROWS INTO STORAGE BASINS OF VARIOUS LENGTHS

3 3 THE END CAP SHALL HAVE SAW GUIDES TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM

3 4 THE END CAP SHALL HAVE EXCESS STRUCTURAL ADEQUACIES TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION

3 5 THE PRIMARY FACE OF AN END CAP SHALL BE CURVED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS

3 6 THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001 2000 CERTIFIED FACILITY

13.0 Inspection & Maintenance

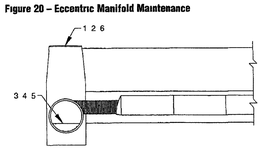
13 6 ECCENTRIC PIPE HEADER INSPECTION
Theses guidelines do not supercede a pipe manufac turer s recommended I&M procedures Consult with the manufacturer of the pipe header system for specific I&M procedures Inspection of the header system should be carried out quarterly On sites which generate higher levels of sediment more frequent inspections may be necessary Headers may be accessed through risers access ports or manholes Measurement of sediment may be taken with a stadia rod or similar device Clean out of sediment should occur when the sediment volume has reduced the storage area by 25% or the depth of sediment has reached approximately 25 4 of the diameter of the structure

13 7 ECCENTRIC PIPE HEADER MAINTENANCE
Cleanout of accumulated material should be accom plished by vacuum pumping the material from the head er Cleanout should be accomplished during dry weath er Care should be taken to avoid flushing sediments out through the outlet pipes and into the chamber rows

Eccentric Header Step-by Step Maintenance Procedures

1 Locate manholes access ports or risers connected to the header system
2 Remove grates or covers
3 Using a stadia rod measure the depth of sediment
4 If sediment is at a depth of about 25% pipe volume or 25% pipe diameter proceed to step 5 If not proceed to step 6
5 Vacuum pump the sediment Do not flush sediment out inlet pipes
6 Replace grates and covers
7 Record depth and date and schedule next inspection

Figure 20 – Eccentric Manifold Maintenance



13.0 Inspection and Maintenance

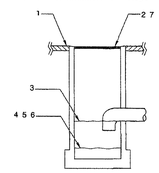
StormTech

13 1 TREATMENT TRAIN INSPECTION AND MAINTENANCE
The StormTech recommended treatment train inlet system has three tiers of treatment upstream of the StormTech chambers It is recommended that inspection and main tenance (I&M) be initiated at the furthest upstream treat ment tier and continue downstream as necessary The following I&M procedures follow this approach providing I&M information in the following order Tier 1 – Pretreatment (BMP) Tier 2 – StormTech Isolator Row and Tier 3 – Eccentric Pipe Header System

13 2 CATCHBASIN/MANHOLE I&M
Typically a stormwater system will have catchbasins and manholes upstream of the detention/retention sys tem In some cases these may be the only pre-treatment devices Regular I&M of catchbasins and manholes should be scheduled and performed as part of a site s routine maintenance plan

Catchbasin/Manhole – Step-by-Step Maintenance Procedures
1) Inspect catch basins and manholes upstream of StormTech chambers for sediment
2) Remove grate or cover
3) Skim off oils and floatables
4) Using a stadia rod measure the depth of sediment
5) If sediment is at a depth greater than 6 proceed to step 6 If not proceed to step 7
6) Vacuum or manually remove sediment
7) Replace grate
8) Record depth & date and schedule next inspection

Figure 18 – Catchbasin/Manhole I&M Steps



13 3 PRE-TREATMENT DEVICE I&M
Manufacturer s I&M procedures should be followed for proprietary pretreatment devices such as baffle boxes swirl concentrators oil-water separators and filtration units **Table 10** provides some general guidelines but is not a substitute for a manufacturer s specific instructions

TABLE 10 – Pretreatment Inspection and Maintenance Guidelines

StormTech Isolator™ Row	Bi Annually	JetVac - Culvert Cleaning Nozzle Preferred
Sediment Basin	Quarterly or after large storm event	Excavate sediment
Catch Basin Sump	Quarterly	Excavate pump or vacuum
Sedimentation Structure	Quarterly	Excavate pump or vacuum
Catch Basin Filter Bags	After all storm events	Clean and/or replace filter bags
Porous Pavement	Quarterly	Sweep Pavement
Pipe Header Design	Quarterly	Excavate pump or vacuum
Water Quality Inlet	Quarterly	Excavate pump or vacuum
Sand Filters	Quarterly or after storm event	Remove & replace sand filter

This schedule does not account for regional or site variables Local municipal guidelines should be followed for inspection when available
The methods stated are minimum guidelines for removal and cleaning of system Other methods may apply

Bury+Partners
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VOLUNTEER FIRE DEPARTMENT BUILDING ADDITION
FINAL SITE PLAN
BLUE RIDGE DISTRICT
TOWN OF MIDDLEBURG, VIRGINIA

SWM/BMP Facility Details

NO	DATE	REVISION
1	5 2 08	REMOVED MEETING HALL
2	7 10 08	REV 2ND REVIEW COMMENTS

COMMONWEALTH OF VIRGINIA
WILLIAM D HUME
No 0037880
7/10/08
PROFESSIONAL ENGINEER

SCALE	N/A
DATE	11-16-07
DRAWN BY	PJC/BP
DESIGNED BY	PJC
REVIEWED BY	MS
PROJ NO	220550002

SHEET
11
OF 18